

Fig. 1 Client interaction with a Web server using HTTP

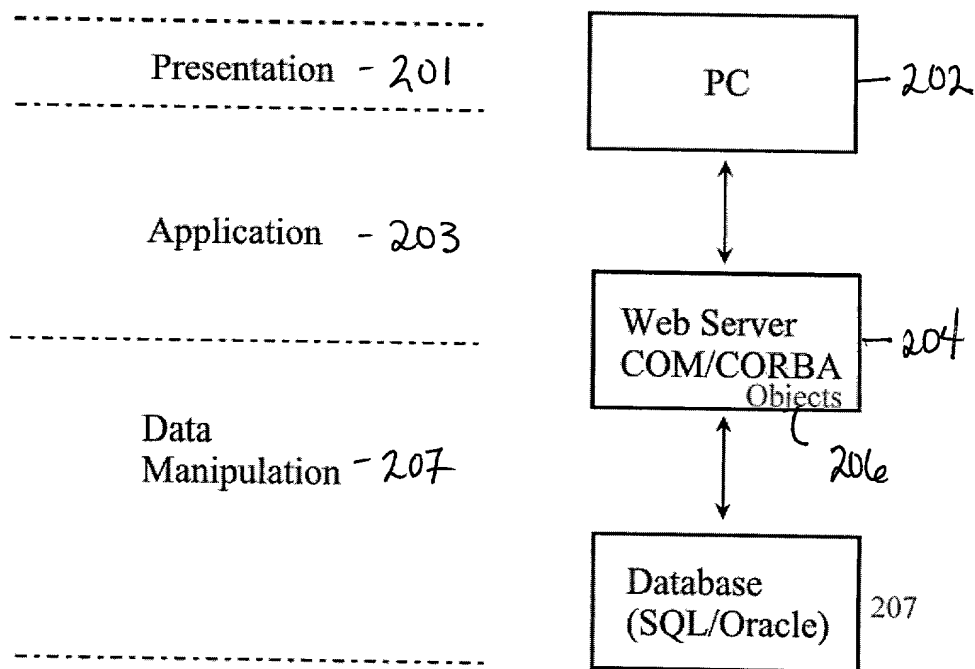


Fig. 2 Three-tier client server system

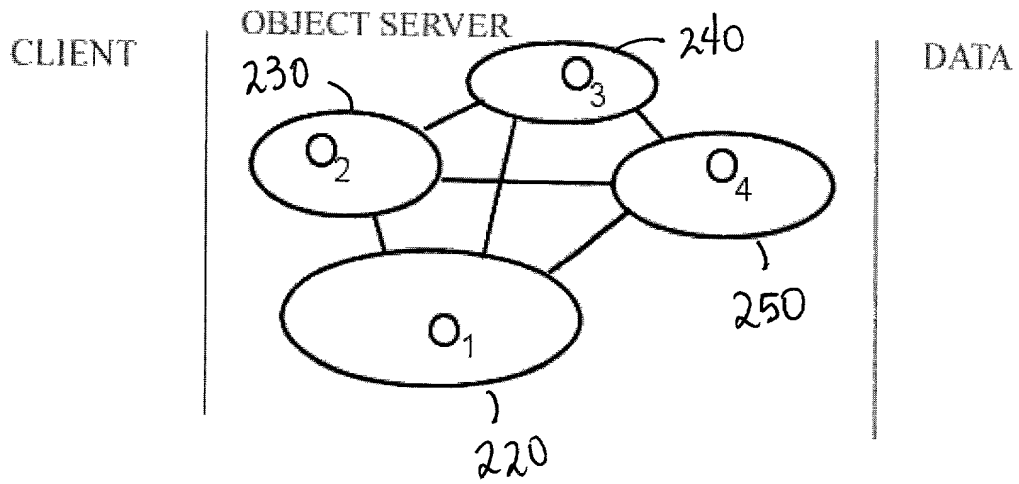


FIG. 2B

301 TextBox	305 Field Name: <input type="text"/>	316 Input Box: 1x20	317 Add	312
302 CheckBox	Field Name: 306 <input type="checkbox"/>	Sub Name: 309 <input type="text"/>	Add	313
303 OptionButt	Field Name: 307 <input type="text"/>	Sub Name: 310 <input type="text"/>	Add	314
304 SelectBox	Field Name: 308 <input type="text"/>	Sub Name: <input type="text"/>	Add	315

311  
New Form

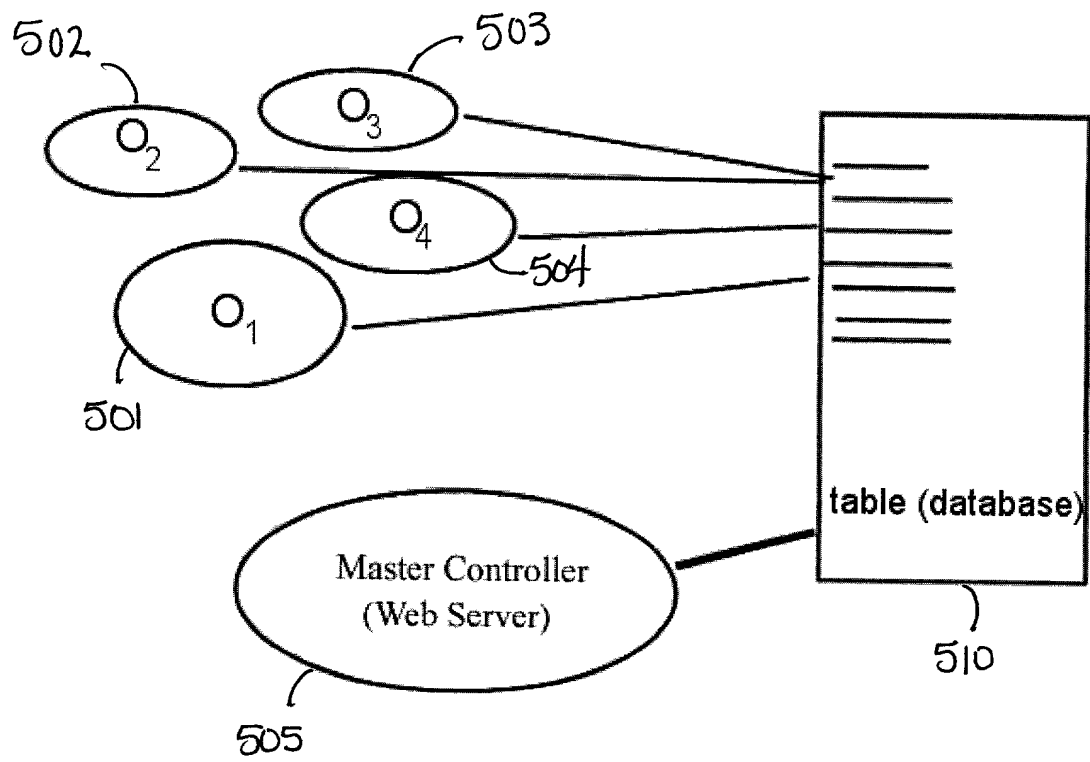
318  
Make Active

FIG. 3

## *Video Film Library*

Film Name	<input type="text"/>
Release Date	<input type="text"/>
Country	<input type="text" value="USA"/>
Description	<input type="text"/>
Type	Sci-Fi <input type="checkbox"/> Horror <input type="checkbox"/> Comedy <input type="checkbox"/> Adventure <input type="checkbox"/> Musical <input type="checkbox"/> Romance <input type="checkbox"/>
Pict. Quality	Good <input checked="" type="radio"/> Average <input type="radio"/> Poor <input type="radio"/>
Rating	<input type="text" value="Excellent"/>
	<input type="button" value="Clear"/> <input type="button" value="Add"/>

FIG. 4



515

Client

Server

Objects

Web  
Server

object 1 state

object 2 state

table or  
other software  
container

FIG. 5B

## Code Figure

```
1. function add_field2(){
2.
3. //create the checkbox cookie
4.
5.     form_text = document.frmHead2.text1.value
6.     form_size = document.frmHead2.text2.value
7.
8.     new_cookie = "cookie" + tot_cookies.toString()
9.
10.    tot_cookies = parseInt(tot_cookies) + 1
11.        //set the total app. variables held in cookies
12.        setCookie("total_cookies", tot_cookies)
13.        //create the new form variable and store as a new cookie
14.        new_cookie_str = "T" + "" + form_text + "" + form_size
15.        setCookie(new_cookie, new_cookie_str)
16.
17.    window.location.reload()
18.
19. }
```

FIG. 6

## Code Figure

```
1.  for (var c=0; c<tot_cookies; c++){
2.
3.  conv = (c+1).toString()
4.
5.  if (data_sets[c][0]=="T"){
6.      //alert("this is a text box")
7.  //begin
8.      items_coll = c.toString()
9.
10.     dstr += "<tr>"
11.     dstr += "<td>"
12.     dstr += data_sets[c][1]
13.     dstr += "</td>"
14.     dstr += "<td >"
15.     dstr += input_box(data_sets[c][2])
16.     dstr += "</td>"
17.     dstr += "<td><a name=\"conv\" href='javascript:if(confirm(\"Delete,
are you sure?\"))'>"
18.     dstr += "{del_line(" + items_coll + ")}else{}'>delete</a></td>"
19.     dstr += "</tr>"
20.
21. }
22. // draw for a radio button
23. if (data_sets[c][0]=="R"){
24. ...
25. ...
26. ...
27. } //end of the for loop
28.
29.     document.write (dstr)
```

FIG. 7



## Code Figure

```
1. for c = 0 to (tot_cookies-1)
2.     cookie_str = "cookie" + Cstr(c)
3.     vstr = vstr + Request.Cookies(cookie_str) + "^AAA^"
4. next
5.
6. objRec.AddNew
7.     objRec("customer_id") = cust_id
8.     objRec("customer_form") = form_id
9.     objRec("customer_name") = cust_name
10.    objRec("customer_email") = cust_email
11.    objRec("form_schema") = vstr
12.
13.    objRec.Update
```

FIG. 8

## Code Figure

```
1. 'build the Javascript array to include all the returned data_sets
2.
3.         vstr = vstr + "<script LANGUAGE='JavaScript'>" + Chr(13)
4.
5. 'define the array variables
6.         vstr = vstr + "var data_sets = new Array(2)" + Chr(13)
7.
8. for a = 1 to rec_no
9.         vstr = vstr + "data_sets[" + Cstr(a) + "] = new Array(20)" + Chr(13)
10. next
11.
12. 'populate the array with the values
13.         for a = 1 to rec_no
14.                 for b =1 to form_row
15.                         vstr = vstr + "data_sets[" + Cstr(a) + "][" + Cstr(b) + "] =
16.                         " + "" + Cstr(data_sets(a,b)) + "" + Chr(13)
17.                 next
18.         next
19.         vstr = vstr + "</script>"
20.
21.         Response.Write vstr
```

FIG. 9

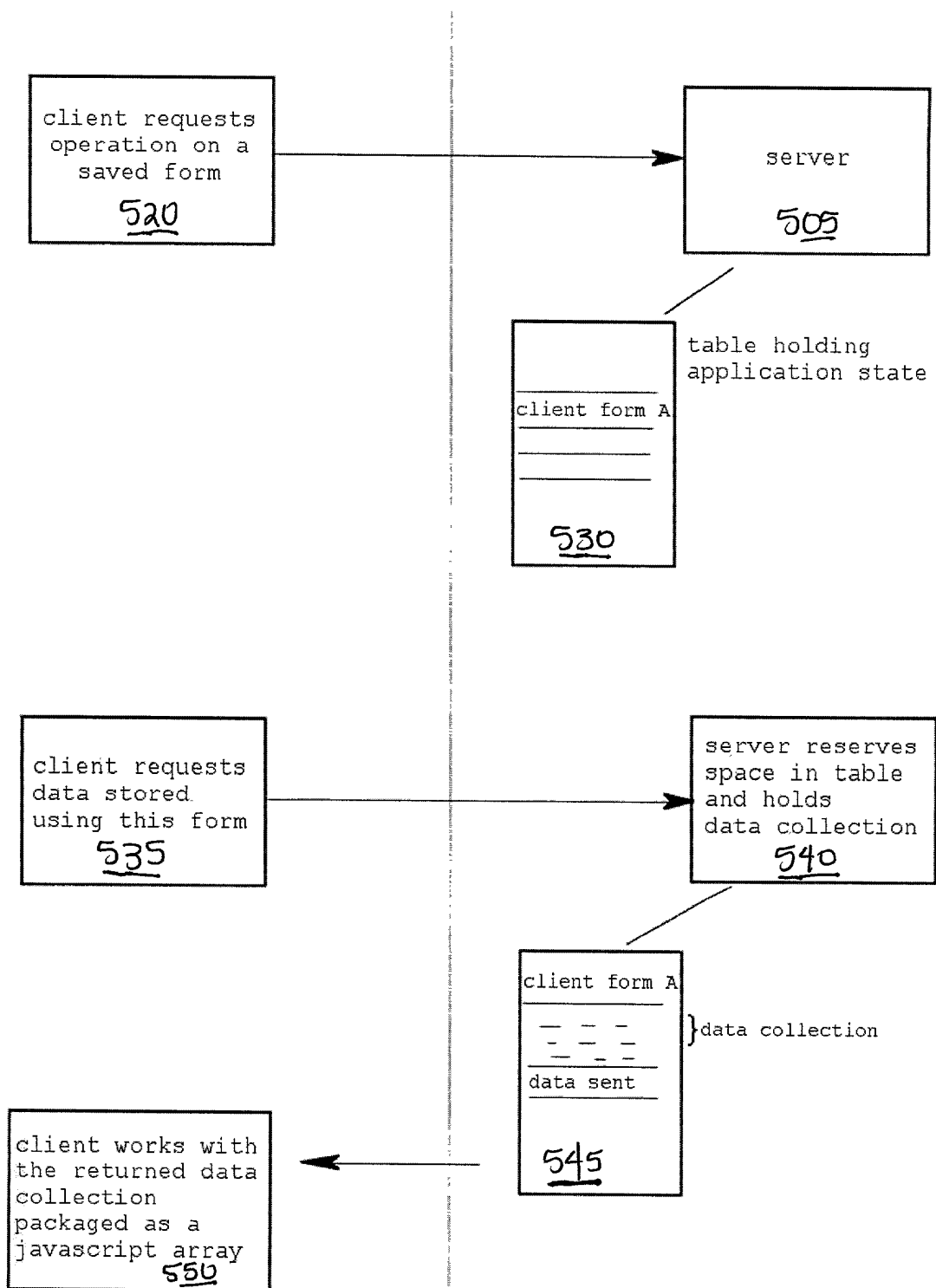


FIG. 5C

Client

Server

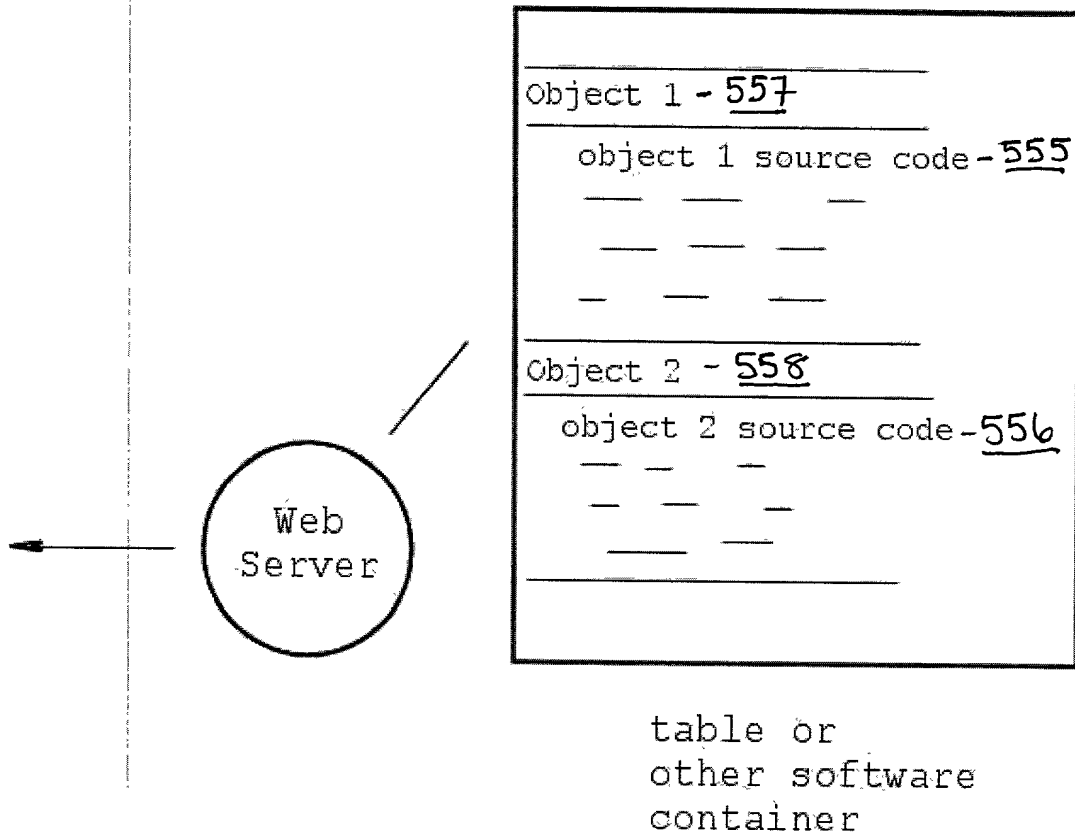


FIG. 5D

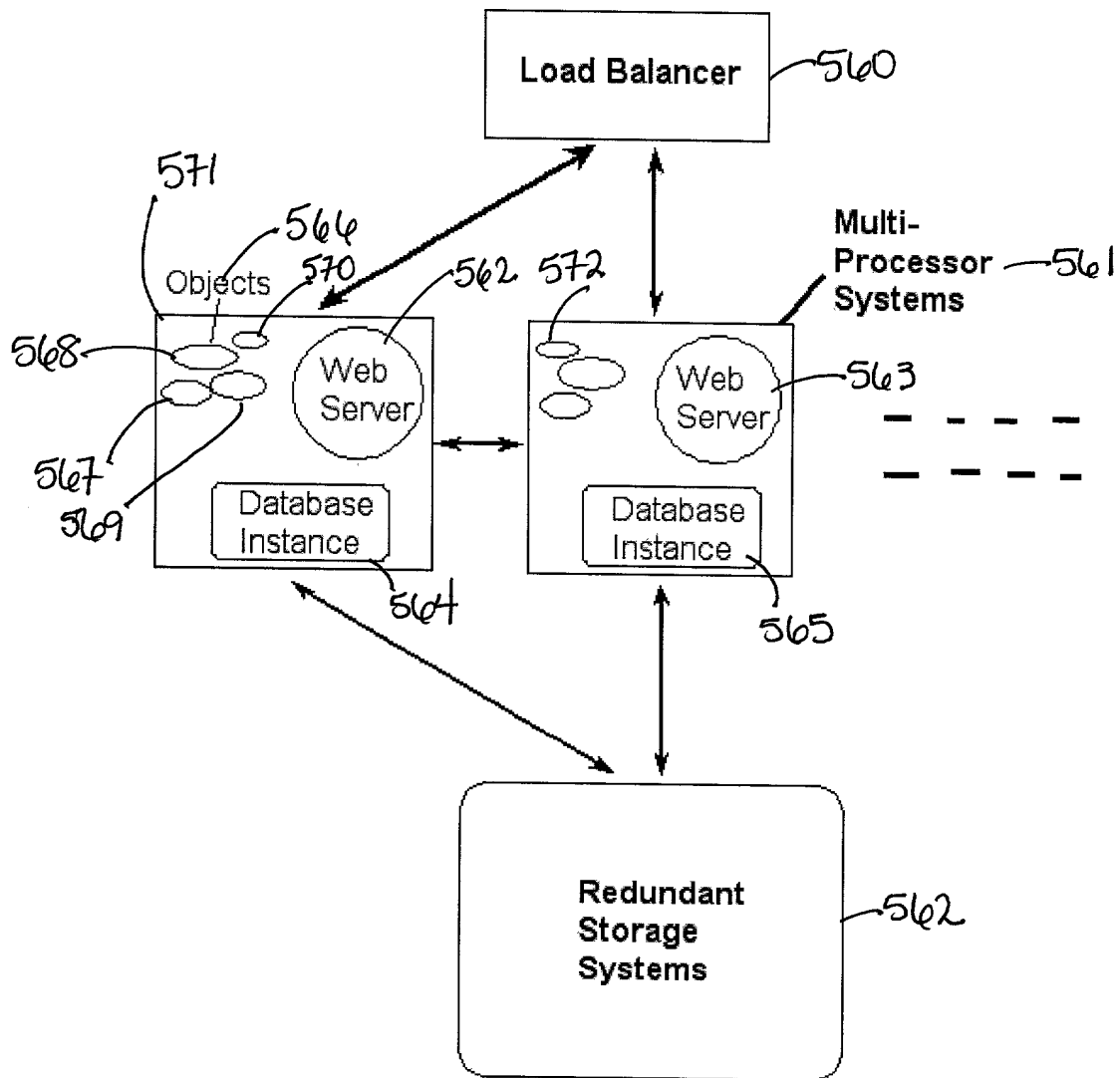


FIG. 5E

Client user accesses  
HTML page — 601

Client creates form  
using an html template — 602

User/Client submits  
form — 603

Server stores form  
in database table — 604

FIG. 10

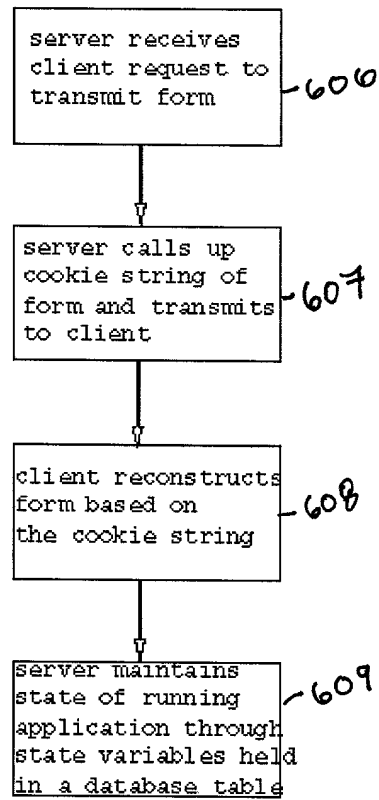


FIG. 11

700  
↓

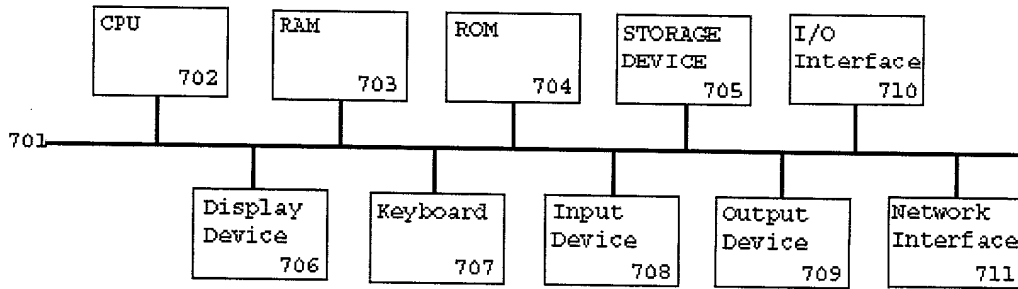


FIG. 12



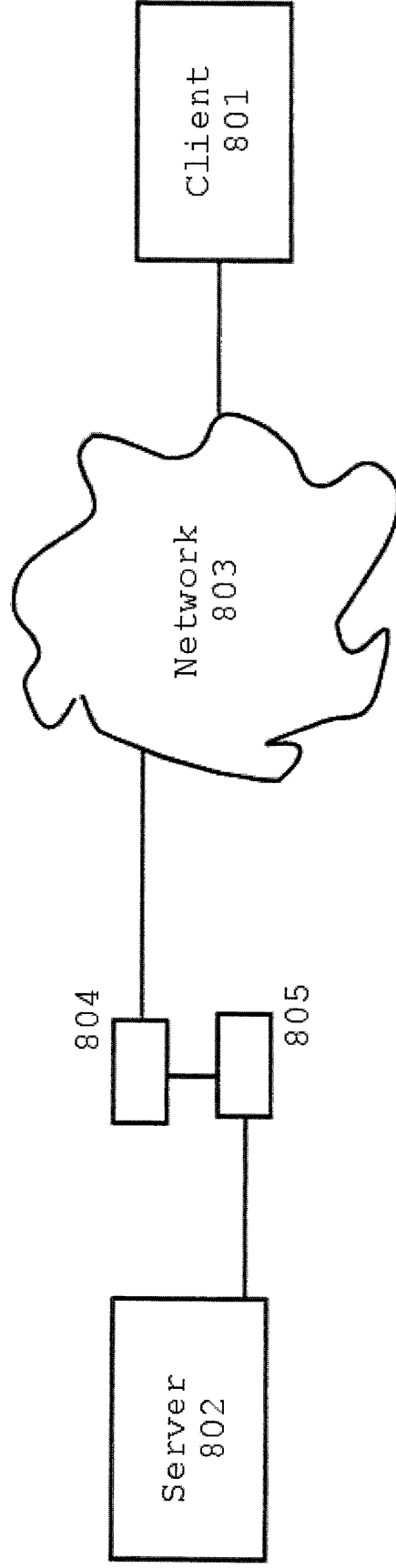


FIG. 13